

**Amendments to the Claims:**

1. **(Currently amended)** A system for enabling a wireless communication terminal present in a local area to communicate with a network outside the local area, the system comprising:

a plurality of sub-stations for forming respective wireless communication areas individually in the local area, and performing wireless communication with the wireless communication terminal in the respective corresponding wireless communication areas;

one or more access relay apparatuses for converting a signal to be input from an outside of the local area to an inside of the local area to a signal form for use in the local area, and converting a signal to be output from the inside of the local area to the outside of the local area to a signal form for use in the outside of the local area; and

a main station provided between the sub-stations and the access relay apparatuses, wherein the main station comprises:

a managing ~~means for managing~~ section operable to manage a communication route from each of the access relay apparatuses to each of the sub-stations in a state such that the communication route can be set; and

a selecting ~~means for selecting and outputting~~ section operable to select and output a signal which is input from the outside of the local area, whose form is converted in each of the access relay apparatuses, and which is input to the local area, to the corresponding sub-station in accordance with the communication routes managed by the managing ~~means~~ section.

2. **(Currently amended)** The wireless communication system according to claim 1, wherein ~~the selecting means further comprises: each of the access relay apparatuses converts the signal to be input to the local area to the signal form for use in the local area using frequencies different from one another,~~

~~the selecting section further comprises:~~

one or more splitting ~~means~~sections corresponding to the respective access relay apparatuses; and

a plurality of switching ~~means~~sections corresponding to the respective sub-stations; ~~sub-stations~~; and

a plurality of multiplexing sections corresponding to the respective switching sections,  
each of the splitting ~~means~~sections splits and outputs the signal to be input to the local area whose form has been converted in the access relay apparatus, to all of the switching ~~means~~sections, and

each of the switching ~~means~~sections is switched to determine which of the signals output from the splitting ~~means~~sections is output to the corresponding sub-station based on the communication routes managed by the managing ~~means~~section, and

each of the multiplexing sections frequency-multiplexes a signal output from the corresponding switching section to create a multiplexed signal to be input to the local area and outputs the multiplexed signal to the corresponding sub-station.

#### Claims 3 and 4 (Cancelled)

5. (Original) The wireless communication system according to claim 1, further comprising a network switch provided between the access relay apparatuses and the network outside the local area, wherein

the network switch manages a state of connection between each of the access relay apparatus and the wireless communication terminal present in the local area, specifies the wireless communication terminal present in the local area with reference to a signal input to the network switch, and based on the connection state, outputs the signal input to the network switch to the access relay apparatus connected to the specified wireless communication terminal.

6. **(Original)** The wireless communication system according to claim 5, wherein the wireless communication terminal present in the local area transmits a signal to be transmitted to another wireless communication terminal present in the local area, to the sub-station of the communication area to which the wireless communication terminal belongs,

the signal to be transmitted to the other wireless communication terminal is input via the sub-station and the main station to the access relay apparatus, is converted to a signal for use in the outside of the local area in the access relay apparatus, and is output to the network switch, and

the network switch specifies the other wireless communication terminal present in the local area with reference to the signal whose form has been converted in the access relay apparatus, and based on the connection state, outputs the signal input to the network switch to the access relay apparatus connected to the specified wireless communication terminal.

7. **(Original)** The wireless communication system according to claim 1, wherein each of the sub-stations receives the signal to be output from the inside of the local area to the outside of the local area, the signal being transmitted from the wireless communication terminal, and outputs the signal to the main station,

the main station outputs the signal to be output from the inside of the local area to the outside of the local area, the signal being output from the sub-station, to the access relay apparatus,

the access relay apparatus converts the signal to be output from the inside of the local area to the outside of the local area, the signal being output from the main station, to the signal form for use in the outside of the local area, and outputs the converted signal to the outside of the local area.

8. **(Currently amended)** The wireless communication system according to claim 7, wherein the main station further comprises:

a plurality of main station signal receiving means corresponding to the respective sub-stations, for receiving the signal to be output from the inside of the local area to the outside of the local area, the signal being output from each of the sub-station; and

a main station combining ~~means for combining~~ section operable to combine the signals to be output from the inside of the local area to the outside of the local area, the signals being received by the plurality of the main station signal receiving ~~means~~, and ~~outputting~~ sections, and output the combined signal to the access relay apparatus.

9. **(Currently amended)** The wireless communication system according to claim 7, wherein the access relay apparatus further comprises:

an intensity detecting ~~means for detecting~~ section operable to detect an intensity of a signal transmitted from the main station; and

a request ~~means for requesting~~ section operable to request the main station to switch one signal to be transmitted to the access relay apparatus to another signal when the intensity of the signal transmitted from the main station, the intensity being detected by the intensity detecting ~~means~~ section, is lower than a predetermined value,

when the request from the request ~~means~~ section is present and the main station receives a signal having the same contents to be transmitted to the access relay apparatus from two or more of the sub-stations, the main station outputs the signal output from one of the two or more sub-stations, the one sub-station being different from the sub-station being outputting the signal to the access relay apparatus, instead of the signal being output to the access relay apparatus.

10. **(Currently amended)** The wireless communication system according to claim 7, wherein each of the sub-stations further comprises a crosstalk canceling ~~means for creating~~ section operable to create a signal having the same intensity as that of crosstalk occurring in the signal to be output from the inside of the local area to the outside of the local area due to an influence of the signal to be input to the local area, based on the signal to be input to the local

area, and ~~inverting~~invert the signal having the intensity and adding the inverted signal to the crosstalk.

11. **(Currently amended)** The wireless communication system according to claim 10, wherein the crosstalk canceling ~~means~~section comprises:

a first coupler section for splitting a portion of the signal to be input to the local area; and  
a second coupler section for combining the portion of the signal to be input to the local area which has been split by the first coupler section, with the signal to be output from the inside of the local area to the outside of the local area,

the first coupler section changes a phase of a signal to be output to the second coupler section by 90° when splitting the signal to be input to the local area, and

the second coupler section changes a phase of the signal to be input to the local area which has been output from the first coupler section, by 90°, when combining the two signals.

12. **(Original)** The wireless communication system according to claim 7, wherein, in each of the sub-station, a signal transmitting/receiving system for outputting the signal to be output from the inside of the local area to the outside of the local area, the signal being output from the wireless communication terminal, to the main station, and a signal transmitting/receiving system for transmitting the signal to be input to the local area, the signal being output from the main station, to the wireless communication terminal, are accommodated in respective separate housings.

13. **(Currently amended)** The wireless communication system according to claim 1, wherein the main station and each of the sub-stations are connected via an optical transmission line,

the main station further comprises an optical signal conversion ~~means~~section operable to convert the signal selected by the selecting ~~means~~section to an optical signal,

each of the sub-stations converts the optical signal output from the main station to an electrical signal in a form for use in the local area, and transmits the electrical signal in the form of a wireless radio wave to the wireless communication terminal in the corresponding wireless communication area.

Claims 14 and 15 (Canceled)

16. **(Currently amended)** The wireless communication system according to claim 13, wherein ~~the main station further comprises a main station frequency-converting means for converting a frequency of the signal to be input to the local area, a form of the signal having been converted by each of the access relay apparatuses, to an intermediate frequency~~ the sub-station further comprises a sub-station frequency-converting section operable to convert a frequency of the converted electrical signal in the form for use in the local area from the intermediate frequency to a frequency which is when the access relay apparatus has output the electrical signal,

the signal frequency-converted by the sub-station frequency-converting section is transmitted in the form of a wireless radio wave to the wireless communication terminal in the corresponding wireless communication area,

the main station further comprises a main station frequency-converting section operable to convert a frequency of the signal to be input to the local area, a form of the signal having been converted by each of the access relay apparatuses, to an intermediate frequency,

the selecting means-section selects the signal to be input to the local area whose form has been converted by each of the access relay apparatuses and which has been frequency-converted by the main station frequency-converting means-section.

17. **(Currently amended)** The wireless communication system according to claim 13, wherein each of the access relay apparatuses outputs the converted signal to be input to the local area as a signal having a first intermediate frequency to the main station,

the main station further comprises a main station frequency-converting means for converting section operable to convert a frequency of the signal to be input to the local area, the signal being output from each of the access relay apparatuses, to a second intermediate frequency, and

the selecting means section selects the signal to be input to the local area whose having been converted by each of the access relay apparatuses and which has been frequency-converted by the main station frequency-converting means section.

18. **(Original)** The wireless communication system according to claim 13, wherein the optical transmission lines connecting the respective sub-stations and the main station have lengths substantially equal to one another.

19. **(Currently amended)** The wireless communication system according to claim 1, wherein the main station and each of the sub-stations are connected via an optical transmission line,

the main station further comprises an optical signal conversion means for converting section operable to convert the signal to be input to the local area, a form of the signal having been converted by each of the access relay apparatuses, to an optical signal, and

the selecting means section selects and outputs the optical signal converted by the optical signal conversion means section to the sub-station.

20. **(Currently amended)** The wireless communication system according to claim 1, wherein the main station further comprises a plurality of signal receiving means sections

corresponding to the respective sub-stations, for receiving all signals which are output from the respective access relay apparatuses,

the selecting means section comprises:

a plurality of splitting means sections corresponding to the respective sub-stations; and

a plurality of selecting/outputting means sections provided between the respective sub-stations and the respective splitting means sections,

the splitting means sections split all of the signals to be input to the local area which have been output from the respective access relay apparatuses and have been received by the respective signal receiving means sections, into signals to be input to the local area for the respective access relay apparatuses, and

each of the selecting/outputting means sections outputs the signal to be input to the local area which is to be output to the corresponding sub-station, among the signals to be input to the local area which have been split by the corresponding splitting means section, to the corresponding sub-station based on the communication routes managed by the managing means section.

21. **(Currently amended)** The wireless communication system according to claim 1, wherein the selecting means section comprises:

a plurality of signal receiving means sections corresponding to the respective sub-stations; and

a plurality of selecting/outputting means sections provided between the respective sub-stations and the respective signal receiving means sections,

each of the signal receiving means sections receives only the signal to be input to the local area which is to be transmitted to the corresponding sub-station, among the signals to be input to the local area which have been output from the respective access relay apparatuses, based on the communication routes managed by the managing means section, and

the selecting/outputting ~~means~~sections transmit the signal to be input to the local area which has been received by the respective signal receiving~~means~~sections, to the respective corresponding sub-station.

22. **(Currently amended)** The wireless communication system according to claim 1, wherein the wireless communication terminal present in the local area comprises a communication start request ~~means for requesting~~section operable to request for starting communication via the desired access relay apparatus to the sub-station in the communication area to which the wireless communication terminal belongs,

the communication start request reaches via the sub-station to the main station,  
the main station comprises:

a communication request signal receiving ~~means for receiving~~section operable to receive the communication start request transmitted from the communication start request ~~means~~section; and

a communication starting ~~means for starting~~section operable to start communication via the access relay apparatus desired by the sub-station based on the communication start request received by the communication request signal receiving~~means~~section.

23. **(Currently amended)** The wireless communication system according to claim 1, wherein the selecting ~~means~~section does not select or output the signal output by the access relay apparatus to the sub-station when the sub-station has not transmitted a signal to the access relay apparatus for a predetermined period of time or more.

24. **(Currently amended)** A system for enabling a wireless communication terminal present in a local area to communication with a network outside the local area, the system comprising:

a plurality of sub-stations for forming respective wireless communication areas individually in the local area, and performing wireless communication with a wireless communication terminal in the respective corresponding wireless communication areas;

~~one or more~~ a plurality of access relay apparatuses for converting a signal to be input from an outside of the local area to an inside of the local area to a signal form for use in the local area, and converting a signal to be output from the inside of the local area to the outside of the local area to a signal form for use in the outside of the local area; and

a main station provided between the sub-stations and the access relay apparatuses,

wherein the main station ~~comprises~~ a selecting means for selecting and outputting the signal to be input to the local area, the signal having been input from an outside of the local area and a form of the signal having been converted in the access relay apparatus, to all of the sub-stations comprises:

a multiplexing section operable to frequency-multiplex the signal to be input to the local area, the signal to be output from the access relay apparatus, and

a selecting section operable to select and output the signal to be input to the local area, which has been multiplexed by the multiplexing section, to all of the sub-stations.

#### Claims 25-41 (Canceled)

42. (**Currently amended**) A main station, provided between a plurality of sub-stations for forming respective wireless communication areas in a local area and performing wireless communication with a wireless communication terminal in the respective wireless communication areas, and one or more access relay apparatuses for outputting a signal to be input from an outside of the local area to an inside of the local area, the main station comprising:

a managing means for managing section operable to manage a communication route from each of the access relay apparatuses to each of the sub-stations in a state such that the communication route can be set; and

a selecting means for selecting and outputting section operable to select and output the signal to be input to the local area which has been received by the access relay apparatuses, in accordance with the communication routes managed by the managing means section.

43. **(Currently amended)** A main station, provided between a plurality of sub-stations for forming respective wireless communication areas in a local area and performing wireless communication with a wireless communication terminal in the respective wireless communication areas, and one or more a plurality of access relay apparatuses for outputting a signal to be input from an outside of the local area to an inside of the local area, the main station comprising:

a signal receiving means for receiving section operable to receive the signal to be input to the local area which has been received by the access relay apparatus; and

a multiplexing section operable to frequency-multiplex the signal to be input to the local area, the signal being received by the signal receiving section; and

a selecting means for selecting and outputting section operable to select and output the signal to be input to the local area which has been received multiplexed by the access relay apparatus multiplexing section, to all of the sub-stations.

44. **(Currently amended)** A sub-station for use in a wireless communication system, wherein the sub-station forms a wireless communication area in a local area, and communicates with a wireless communication terminal present in the wireless communication area formed by the sub-station,

in the wireless communication system, a signal to be input from an outside of the local area to an inside of the local area is converted to a signal form for use in the local area, and is selected and output to the corresponding sub-station,

the sub-station comprising:

a signal receiving ~~means for receiving~~ section operable to receive a corresponding signal among the selected and output signals,

a radio wave signal transmitting ~~means for transmitting~~ section operable to transmit the signal received by the signal receiving ~~means~~ section to the corresponding wireless communication terminal present in the wireless communication area in the form of a wireless radio wave.

45. **(Currently amended)** The sub-station according to claim 44, wherein the signal to be input from the outside of the local area to the inside of the local area is converted to a signal in an optical signal form, and the optical signal is selected and output,

the signal receiving ~~means~~ section receives the signal converted to the optical signal form,

the sub-station further comprises an electrical conversion ~~means for converting~~ section operable to convert the signal received by the signal receiving ~~means~~ section to an electrical signal form, and

the radio wave signal transmitting ~~means~~ section transmits the signal converted by the electrical conversion ~~means~~ section to the wireless communication terminal in the form of a wireless radio ~~wave~~ wave,

the wireless communication terminal transmits a signal to output from the inside of the local area to the outside of the local area in the form of a wireless radio wave,

the sub-station further comprises:

a radio wave signal receiving section operable to receive the signal transmitted by the wireless communication terminal;

a signal transmitting section operable to transmit the signal received by the radio wave signal receiving section to an outside of the wireless communication area formed by the sub-station; and

an optical conversion section operable to convert the signal received by the radio wave signal receiving section to an optical signal form,

the signal transmitting section transmits the optical signal converted by the optical conversion section to the outside of the wireless communication area formed by the sub-station.

Claims 46 and 47 **(Cancelled)**

48. **(Currently amended)** The sub-station according to claim 46 45, further comprising a crosstalk canceling means for creating section operable to create a signal having the same intensity as that of crosstalk occurring in the signal to be output from the inside of the local area to the outside of the local area due to an influence of the signal to be input to the local area, based on the signal to be input to the local area, and inverting invert the signal having the intensity and adding the inverted signal to the crosstalk.

49. **(Currently amended)** The sub-station according to claim 48, wherein the crosstalk canceling means section comprises:

a first coupler section for splitting a portion of the signal to be input to the local area; and

a second coupler section for combining the portion of the signal to be input to the local area which has been split by the first coupler section, with the signal to be output from the inside of the local area to the outside of the local area,

the first coupler section changes a phase of a signal to be output to the second coupler section by 90° when splitting the signal to be input to the local area, and

the second coupler section changes a phase of the signal to be input to the local area which has been output from the first coupler section, by 90°, when combining the two signals.

50. **(Currently amended)** The sub-station according to claim 46 45, wherein the signal receiving means section and the radio wave signal transmitting means section are accommodated

in a first housing, and the signal transmitting ~~means~~section and the radio wave signal receiving ~~means~~section are accommodated in a second housing.

51. (New) In a system comprising a plurality of sub-stations for forming respective wireless communication areas individually in the local area, and performing wireless communication with the wireless communication terminal in the respective corresponding wireless communication areas, one or more access relay apparatuses for converting a signal to be input from an outside of the local area to an inside of the local area to a signal form for use in the local area, and converting a signal to be output from the inside of the local area to the outside of the local area to a signal form for use in the outside of the local area, and a main station provided between the sub-stations and the access relay apparatuses,

a method performed by the main station comprising:

managing a communication route from each of the access relay apparatuses to each of the sub-stations in a state such that the communication route can be set; and

selecting and outputting a signal which is input from the outside of the local area, whose form is converted in each of the access relay apparatuses, and which is input to the local area, to the corresponding sub-station in accordance with the managed communication routes.

52. (New) In a system comprising a plurality of sub-stations for forming respective wireless communication areas individually in the local area, and performing wireless communication with a wireless communication terminal in the respective corresponding wireless communication areas, a plurality of access relay apparatuses for converting a signal to be input from an outside of the local area to an inside of the local area to a signal form for use in the local area, and converting a signal to be output from the inside of the local area to the outside of the local area to a signal form for use in the outside of the local area, and a main station provided between the sub-stations and the access relay apparatuses,

a method performed by the main station comprising:

frequency-multiplexing the signal to be input to the local area, the signal being output from the access relay apparatus, and

selecting and outputting the signal to be input to the local area which has been multiplexed by the multiplexing section, to all of the sub-stations.